PNAS
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Supplementary Information for

Violet light suppresses lens-induced myopia via neuropsin (OPN5) in mice

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This PDF file includes:

Table S1 to S8

Table S1. Numeric data for refractive shift: Figure 1D

Two-way repeated measures ANOVA, interaction time x treatment: F(5, 36) = 4.75, p=0.002								
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between**					
	0	3	0 and 3 weeks	different lighting conditions at 3 weeks				
	min-P_{25}/median/ P_{75}-max	min-P_{25}/median/ P_{75}-max						
WL	-1.960/-0.740/0.860	-28.330/-23.170/-20.500	**<0.0001**	with				
WL + predawn VL	-7.357/-0.437/7.263	-37.517/-28.027/-20.897	**<0.0001**	>0.9999	with			
WL + daytime VL	-3.923/-0.893/3.632	-27.276/-24.288/-16.836	**<0.0001**	>0.9999	0.9969	with		
WL + continuous VL	-3.015/0.140/4.475	-23.748/-13.490/-8.468	**0.0027**	0.2681	0.1123	0.7939	with	
WL + evening VL	-6.254/2.599/4.516	-18.864/-10.481/-3.786	**0.0195**	**0.0058**	**0.0026**	0.1044	0.9976	with
WL + post dusk VL	-10.965/2.340/-10.965	-24.445/-10.010/10.195	0.4461	**0.0137**	**0.0057**	0.1055	0.9707	>0.9999
WL: White light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.								

Table S2. Numeric data for axial length difference: Figure 1E

Two-way repeated measures ANOVA, interaction time x treatment: F(5, 33) = 3.883, p=0.0071								
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**					
	0	3	0 and 3 weeks	different lighting conditions at 3 weeks				
	min-25th/median/75th-max	min-25th/median/75th-max						
WL	-0.027/0.003/0.018	0.033/0.055/0.082	**<0.0001**	with				
WL + predawn VL	-0.013/0.002/0.008	0.037/0.042/0.082	**<0.0001**	>0.9999	with			
WL + daytime VL	-0.007/0.0002/0.007	0.031/0.0479/0.071	**0.0025**	>0.9999	>0.9999	with		
WL + continuous VL	-0.034/0.0005/0.033	-0.005/0.0127/0.025	0.9349	**0.0165**	**0.0078**	0.1311	with	
WL + evening VL	-0.016/0.005/0.011	0.014/0.019/0.033	0.5702	**0.0451**	**0.0208**	0.2822	>0.9999	with
WL + post dusk VL	-0.016/-0.010/0.025	-0.004/0.017/0.042	0.7633	0.2198	>0.9999	0.5637	>0.9999	>0.9999
WL: White light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.								

Table S3. Numeric data for refractive shift: Figure 2C

Two-way repeated measures ANOVA, interaction time x treatment: F(4, 35) = 7.596, p=0.0002							
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**				
	0	3	0 and 3 weeks	different lighting conditions at 3 weeks			
	min-25th/median/75th-max	min-25th/median/75th-max					
WL	-1.814/-0.085/2.861	-31.818/-29.360/-18.368	**<0.0001**	with			
WL + RL	-2.188/0.626/4.671	-38.520/-27.019/-20.392	**<0.0001**	0.8717	with		
WL + GL	-3.210/-0.248/2.868	-30.596/-24.003/-15.830	**<0.0001**	0.9200	0.3864	with	
WL + BL	-4.278/0.178/3.480	-22.628/-17.883/-15.520	**<0.0001**	0.2667	**0.0312**	0.7570	with
WL + VL	-3.908/0.345/3.588	-17.095/-6.845/-4.025	**0.0082**	**<0.0001**	**<0.0001**	**0.0004**	**0.0175**
WL: White light. RL: Red light. GL: Green light. BL: Blue light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.							

Table S4. Numeric data for axial length difference: Figure 2D

Two-way repeated measures ANOVA, interaction time x treatment: F(4, 35) = 5.723, p=0.0012							
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**				
	0	3	0 and 3 weeks	different lighting conditions at 3 weeks			
	min-25th-median-75th-max	min-25th-median-75th-max					
WL	-0.030/0.005/0.20	0.020/0.045/0.080	**<0.0001**	with			
WL + RL	-0.012/0.00007/0.013	0.012/0.04067/0.060	**<0.0001**	0.9393	with		
WL + GL	-0.005/-0.001/0.009	0.031/0.040/0.060	**<0.0001**	0.9897	0.9983	with	
WL + BL	-0.012/-0.002/0.006	0.007/0.014/0.037	**0.0287**	0.2191	0.6528	0.4658	with
WL + VL	-0.032/0.002/0.028	-0.014/0.006/0.010	0.9996	**0.0020**	**0.0211**	**0.0090**	0.4040
WL: White light. RL: Red light. GL: Green light. BL: Blue light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.							

Table S5. Numeric data for refractive shift: Figure 4A

Three-way repeated measures ANOVA, two way interaction time x genotype: F(1, 14) = 10.13, p=0.0067						
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**			
	0	3	0 and 3 weeks	different cohorts at 3 weeks		
	min-25th-median-75th-max	min-25th-median-75th-max				
Control WL	-6.105/0.670/5.770	-26.750/-18.500/-12.800	**<0.0001**	with		
Control WL + evening VL	-6.236/0.057/6.178	-9.120/-6.600/-3.105	0.4371	**0.0509**	with	
***Opn5* KO WL**	-2.333/-1.498/3.082	-29.740/-25.720/-18.725	**<0.0001**	0.9579	**0.0016**	with
***Opn5* KO + evening VL**	-3.885/-1.498/5.383	-26.970/-19.525/-16.190	**<0.0001**	>0.9999	**0.0140**	>0.9999
WL: White light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.						

Table S6. Numeric data for axial length difference: Figure 4B

Table S6: Numeric data for axial length difference: Figure 4B						
Three-way repeated measures ANOVA, three way interaction time x genotype x light: F(1, 14) = 7.657, p=0.0151						
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**			
	0	3	0 and 3 weeks	different cohorts at 3 weeks		
	min-P_{25}-median- P_{75}-max	min-P_{25}-median- P_{75}-max				
Control WL	-0.011/0.001.0.010	0.035/0.064/0.095	**0.0008**	with		
Control WL + evening VL	-0.010/-0.007/0.017	-0.055/-0.010/-0.001	0.4751	**0.0018**	with	
***Opn5* KO WL**	-0.032/0.009/0.028	0.024/0.051/0.087	**0.0033**	>0.9999	**0.0077**	with
***Opn5* KO + evening VL**	-0.017/-0.004/0.021	0.028/0.046/0.066	**0.0235**	>0.9999	**0.0119**	>0.9999
WL: White light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.						

Table S7. Numeric data for choroidal thickness difference: Figure 4C

Two-way repeated measures ANOVA, interaction time x treatment: F(1, 11) = 16.73, p=0.0018				
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**	
	0	3	0 and 3 weeks	different cohorts at 3 weeks
	min-P_{25}-median- P_{75}-max	min-P_{25}-median- P_{75}-max		
WL	-0.003/-0.0004/0.003	-0.010/-0.006/-0.005	**0.0004**	with
WL + evening VL	-0.0010/-0.001/0.002	-0.0007/0.001/0.002	0.9968	**0.0002**
WL: White light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.				

Table S8. Numeric data for choroidal thickness difference: Figure 4D

Three-way repeated measures ANOVA, interaction time x genotype x light: F(1, 16) = 9.562, p=0.0070						
Experimental Cohort	**Weeks of lens induced myopia**		**p-values: comparison between:**			
	0	3	0 and 3 weeks	different cohorts at 3 weeks		
	min-P_{25}-median- P_{75}-max	min-P_{25}-median- P_{75}-max				
Control WL	-0.001/0.0006/0.0007	-0.009/-0.0071/-0.0066	**<0.0001**	with		
Control WL + evening VL	-0.006/-0.00008/0.0002	0.0004/0.003/0.0036	0.0728	**<0.0001**	with	
***Opn5* KO WL**	-0.0018/-0.002/0.003	-0.0063/-0.005/-0.004	**<0.0001**	0.9708	**<0.0001**	with
***Opn5* KO + evening VL**	-0.002/0.00008/0.002	-0.007/-0.00342/-0.001	**0.0012**	0.2420	**0.0119**	>0.9999
WL: White light. VL: violet light. P_{25}: 25th percentile. P_{75}: 75th percentile.						